

Notice of Allowability

Application No.

10/006,867

Applicant(s)

GODDARD ET AL.

Examiner

David J. Blanchard

Art Unit

1643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 23 June 2006.
2. ☒ The allowed claim(s) is/are 44-45 and 49-51 (renumbered as claims 1-5).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 6/23/06
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


SHEELA HUFF
PRIMARY EXAMINER

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 23 June 2006 has been entered.
2. Claims 44-45, 47 and 49-55 are pending.

Information Disclosure Statement

3. The IDS submitted 23 June 2006 has been fully considered. References 46-48 and 138 on the IDS filed 23 June 2006 are duplicate citations of the IDS submitted 01 July 2005 and previously fully considered by the examiner. Thus, the duplicate citations are crossed-out on the IDS filed 23 June 2006.

EXAMINER'S AMENDMENT

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with AnneMarie Kaiser on 07 September 2006.

The claims have been amended as follows:

Claims 47 and 52-55 have been cancelled.

In claim 44 (renumbered as claim 1) is amended as follows:

44. (Currently amended) An isolated polypeptide comprising:

(a) the amino acid sequence of the polypeptide of SEQ ID NO:2; or

(b) ~~the amino acid sequence of the extracellular domain of the polypeptide of~~
~~SEQ ID NO:2; or~~

[[c)] the amino acid sequence of the polypeptide encoded by the full-length coding sequence of the cDNA deposited under ~~ATCC accession number 203099,~~ wherein ~~said extracellular domain is selected from the group consisting of amino acids 34-53, 114-121, and 181-266 of SEQ ID NO:2~~ has been deleted. ATCC accession number 203099.

The specification has been amended as follows:

At page 1, line 1, the title "SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC ACIDS ENCODING THE SAME" has been deleted and replaced with the following title, "PRO180 POLYPEPTIDE".

In the specification immediately following the title please replace paragraph 1 (line 2), with the following paragraph:

RELATED APPLICATIONS

This is a continuation application claiming priority under 35 USC §120 to PCT application PCT/US00/23328, filed 8/24/2000, which is a continuation-in-part of and claims priority under 35 USC §120 to PCT application PCT/US00/08439, filed 3/30/2000, and where ~~PCT/US00/23328 is also a continuation-in-part of and claims priority under 35 USC §120 to US application 09/380137, filed 8/25/1999 which is the National stage filed under 35 USC §371 of PCT application PCT/US99/12252 filed 6/2/1999, which claims priority under 35 USC §119 to US provisional serial number 60/096012 filed 8/10/1998, the entire disclosures of which are hereby incorporated by reference.~~ 3/30/2000.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance:

Applicants' benefit claim to prior filed applications has been amended because USSN 09/380,137 was abandoned and did not receive a filing date according to USPTO records.

The rejection of claims 44-45, 47 and 49-55 under 35 U.S.C 101 and 35 U.S.C 112, first paragraph, because the claimed invention is not supported by a substantial asserted utility or a well-established utility is withdrawn for the following reasons:

The claims of the instant invention are directed to an isolated polypeptide of SEQ ID NO:2. The specification provides several asserted utilities, including that the PRO

polypeptides of the present invention may be differentially expressed in a diseased tissue as compared to a normal tissue of the same tissue type.

Applicant states at page 8 of their response that the gene expression data in the specification, Example 18, shows that the mRNA associated with the PRO180 polypeptide (SEQ ID NO:2) was more highly expressed in rectal tumor tissue compared to normal rectal tissue and more highly expressed in normal lung compared to lung tumor tissue. Gene expression was analyzed using standard semi-quantitative PCR amplification reactions of cDNA libraries isolated from different human tumor and normal human tissue samples. Identification of the differential expression of the PRO180 polypeptide-encoding gene in tumor tissue compared to the corresponding normal tissue renders the molecule useful and enabled as a diagnostic tool for the determination of the presence or absence of tumor.

Example 18 at page 93 of the instant specification demonstrates differential expression of PRO180 cDNA using quantitative PCR amplification reactions. DNA26843-1389 was shown to be more highly expressed in rectal tumor and normal lung as compared to normal rectum and lung tumor tissue, respectively, in this Example. Applicant states at page 8 of the response that Example 18 utilizes a more accurate and reliable method of assessing changes in mRNA levels, namely quantitative PCR analysis. Applicant relies on more than 140 references (see IDS filed 6/23/2006), where expression levels of mRNA, measured by quantitative PCR, were found to have a good correlation to the expressed protein levels.

It had been previously argued in the previous Office actions that mRNA levels were not predictive of protein levels, citing references by Haynes et al., Gygi et al., and Chen et al. However, these references were measuring and analyzing mRNA levels using microrarrays, not using quantitative PCR analysis and the art recognizes that the results obtained by microarray are not always the same as the results obtained using quantitative PCR (for example, see Oda et al. *Virchows Arch.* 430:99-105, 1997, specifically page 104, column 1, paragraph 2). While the PTO found several references in which the protein expression levels did not correlate with mRNA levels measured by quantitative PCR (see Sugg et al., *Clinical Endocrinology* 49: 629-637, 1998; Toler et al., *Am. J. Obstet. Gynecol.* 194:e27-e31, 2006; Berner et al. *Histopathol.* 42: 546-554, 2003; Brooks et al. *Am. J. Physiol. Renal Physiol.* 284: F218-F228, 2003), the majority of the references which were found, including those cited by Applicant, demonstrated a correlation between mRNA levels measured by quantitative PCR and protein expression levels.

Applicant asserts that the expression levels of protein correlate to mRNA (cDNA) levels when the cDNA is measured by quantitative PCR (i.e. RT-PCR). Applicant has provided more than 140 references in support of this position. The prior art of record (Haynes et al., Gygi et al., Chen et al.), argued by the Examiner, is not specifically directed to message levels measured by RT-PCR. Based on the totality of evidence of record, one of skill in the art would find it more likely than not that an increase in message as measured by RT-PCR would be predictive of an increase in protein expression levels, absent evidence to the contrary. Therefore, the data presented in

Example 18, which demonstrates differential expression of nucleic acids encoding PRO180, also supports a conclusion of differential expression of the PRO180 polypeptide. Therefore, one of ordinary skill in the art would be able to use the PRO180 polypeptide diagnostically for distinguishing rectal tumor from normal rectum and distinguishing normal lung from lung tumor, as asserted by Applicant.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David J. Blanchard whose telephone number is (571) 272-0827. The examiner can normally be reached at Monday through Friday from 8:00 AM to 6:00 PM, with alternate Fridays off. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Helms, can be reached at (571) 272-0832. The official fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

Art Unit: 1643

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Respectfully,
David J. Blanchard
571-272-0827



SHEELA HUFF
PRIMARY EXAMINER